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**PHOTOGRAPHIC  
INTERPRETATION  
REPORT**

**NATIONAL PHOTOGRAPHIC  
INTERPRETATION CENTER**

**CHELYABINSK AIR DEFENSE ZONE  
HEADQUARTERS AND ASSOCIATED  
COMMUNICATIONS FACILITIES**

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**AUGUST 1974  
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INSTALLATION OR ACTIVITY NAME					COUNTRY
Chelyabinsk Air Defense Zone Headquarters and Associated Communications Facilities					UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
NA	See below	See below	See below	See below	See below
MAP REFERENCE					

DMA. US Air Target Chart, Series 200, Sheet 0156-8, scale 1:200,000

LATEST IMAGE USED	NEGATION DATE (If required)
	NA

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**Installation****Geographic Coordinates**

Chelyabinsk ADZ	54-59-40N
Command Bunker	061-20-50E
Chelyabinsk Tropo Sta	54-59-30N
	061-20-50E
Chelyabinsk ADZ	54-59-40N
Radcom Xmtr Sta	061-20-30E
Chelyabinsk ADZ	54-52-30N
Radcom Rcvr Sta	061-30-40E
Paletayevo Radcom	55-02-30N
Xmtr Sta	061-05-20E

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**ABSTRACT**

1. This report describes the recently identified Chelyabinsk Air Defense Zone (ADZ) Headquarters and associated communications facilities. This is the first identification from photographic analysis of an ADZ headquarters and associated communications facilities in the Sverdlovsk Air Defense District (ADD).

2. The identification of these facilities may help in identification of other ADZ headquarters facilities and their communications facilities.

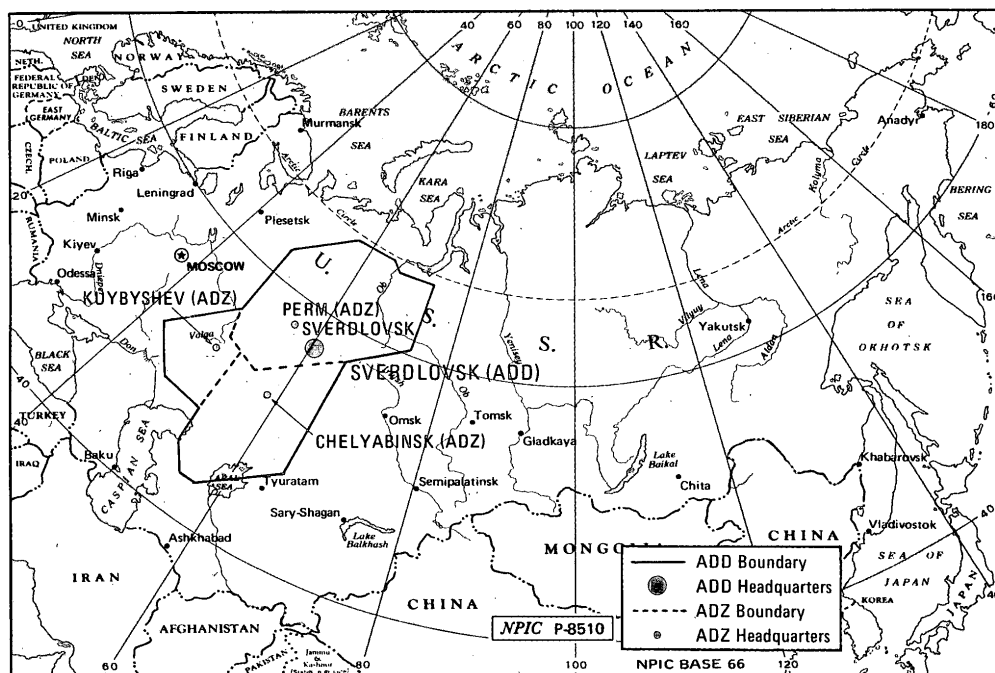


FIGURE 1. LOCATION OF CHELYABINSK ADZ HEADQUARTERS AND ASSOCIATED COMMUNICATIONS FACILITIES

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3. A location map, four annotated photographs, antenna tables, and a basic description of each facility are included. The report is based on all available photography of suitable interpretability

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#### INTRODUCTION

4. Chelyabinsk ADZ Headquarters is 11 nautical miles (nm) south of Chelyabinsk (Figure 1). The Chelyabinsk ADZ Headquarters is representative of the ADZ headquarters in the Sverdlovsk ADD. The types of communications associated with this facility are similar to those at ADZ headquarters throughout the Soviet Union. The ADZ headquarters consists of an ADZ bunker and associated communications facilities: Chelyabinsk Troposcatter Station, Chelyabinsk Radio Communications Transmitter Station, Chelyabinsk Radio Communications Receiver Station, and Paletayevo Radio Communications Transmitter Station.

5. Photography of the ADZ headquarters command and control communications facilities at Chelyabinsk shows the following: there are high frequency (HF) transmitting and receiving antennas

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*Table 1. Chelyabinsk ADZ Command Bunker and Troposcatter Station  
(Keyed to Figure 2)*

No	Antenna Type	Correspondents
1	Troposcatter	Troitsk
2	Troposcatter	Troitsk
3	Troposcatter	Sverdlovsk
4	Troposcatter	Sverdlovsk
5	R-400 microwave antennas (2)	Chelyabinsk Radcom Xmtr Sta and Chelyabinsk Radcom Rcvr Sta

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oriented toward Moscow, toward bordering ADZ headquarters, and with Sverdlovsk ADD Headquarters the troposcatter antennas are part of the troposcatter relay communications network within the ADD; the FORK REST antennas are oriented toward certain air-warning radar sites in the ADZ; and R-400 microwave antennas are present at the Chelyabinsk ADZ communications facilities which provide intrafacility communications. A PVO Stranny obstacle course, which has been observed only at facilities subordinate to PVO Stranny, has been identified in the Chelyabinsk ADZ Radio Communications Transmitter Station.

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#### **BASIC DESCRIPTION**

##### **Chelyabinsk ADZ Command Bunker**

6. This recently identified facility is 11 nm south of Chelyabinsk and is wall secured (Figure 2 and Table 1). It consists of three areas: a bunkered control area, an air-warning radar area, and a support area. The arch-roofed bunker is subsurface and within the wall-secured area. The two air-warning radar mounds are outside and along the east and west walls of the support area. A cable scar extends from the bunker to the control building of Chelyabinsk ADZ Radio Communications Transmitter Station.

7. The support area contains an administration building, three barracks, four support buildings, a maintenance building, and a vehicle shed.

##### **Chelyabinsk Troposcatter Station**

8. The collocated troposcatter station is 1,000 feet south of the ADZ command bunker (Figure 2). It was newly identified in January 1974. It contains an aboveground bunker with two pairs of TWIN DISH troposcatter antennas and an R-400 microwave antenna mounted on top.

##### **Chelyabinsk ADZ Radio Communications Transmitter Station**

9. This newly identified facility is 2,000 feet west of the Chelyabinsk ADZ Command Bunker and consists of an antenna field and a support area (Figure 3 and Table 2).

10. The antenna field contains four transmitting rhombic antennas, one probable rhombic antenna, five horizontal dipole antennas, four quadrant antennas, three FORK REST antennas, two R-400 microwave antennas, and three unidentified masts. A cable scar extends between the transmitter control building and ADZ command bunker.

11. The support area contains an operations building, a two-story barracks, a messhall, two support buildings, two vehicle sheds, and a PVO Stranny obstacle course.

##### **Chelyabinsk ADZ Radio Communications Receiver Station**

12. The receiver station is 6 nm east of the Chelyabinsk ADZ Command Bunker and consists of an antenna field and a support area (Figure 4 and Table 3). The antenna field contains seven fishbone antennas, four horizontal dipole antennas, two quadrant antennas, two R-400 microwave antennas, several unidentified masts, a control building, and a bunker.

13. The troposcatter antennas present in April 1973 were removed by January 1974.

14. The support area consists of a barracks, an operations building, two support buildings, and a security shed.

##### **Paletayevo Radio Communications Transmitter Station**

15. This facility is on the northwest edge of Paletayevo and 9 nm north-northwest of the Chelyabinsk ADZ Command Bunker. It consists of an antenna field and support area (Figure 5 and Table 4).

16. The antenna field contains three double rhombic antennas, two R-400 microwave antennas, three horizontal dipole antennas, one probable horizontal dipole antenna, and a control building.

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17. The support area contains an administration building, two support buildings, and a security shed.

18. Paletayevo Radio Relay Station [ ] is collocated. It is in the southeast corner of the antenna field.

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*Table 2. Chelyabinsk ADZ Radio Communications Transmitter Station  
(Keyed to Figure 3)*

No	Antenna Type	Soviet Designator	Frequency (MHz)	Poss Correspondents
1	Horizontal dipole	VGD $\frac{25}{16}$ d	1.91-6.0	Kuybyshev/Omsk
2	Horizontal dipole	VGD $\frac{20}{22}$ d	3.75-9.38	Kuybyshev/Omsk
3	Horizontal dipole	VGD $\frac{20}{12}$ d	3.75-9.38	Baku/Krasnovodsk
4	Horizontal dipole	VGD $\frac{25}{18}$ d	1.91-6.0	Krasnovodsk
5	Horizontal dipole	VGD undet undet	Undet	Undet
6	Single rhombic	RGD $\frac{65}{4}$ 1	8.0-16.7	Novosibirsk
7	Single rhombic	RGD $\frac{65}{4}$ 1	13.7-28.6	Novosibirsk
8	Single rhombic	RGD $\frac{65}{4}$ 1	8.0-16.7	Tashkent
9	Single rhombic	RGD $\frac{65}{28}$ 6	4.8-12.0	Moscow
10	Single rhombic	RGD undet	Undet	Baku
11	Quadrant	UGD $\frac{15}{16}$ d	5.0-12.5	
12	Quadrant	UGD $\frac{32}{13}$ d	3.51-5.97	
13	Quadrant	UGD $\frac{20}{23}$ d	5.62-9.55	
14	Quadrant	UGD $\frac{15}{16}$ d	5.0-12.5	
15	FORK REST			
16	FORK REST			
17	FORK REST			
18	R-400 microwave antenna			Chelyabinsk Radcom Rcvr Sta
19	R-400 microwave antenna			Paletayevo Radcom Xmtr Sta

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Table 3. Chelyabinsk ADZ Radio Communications Receiver Station  
(Keyed to Figure 4)

No	Antenna Type	Soviet Designator	Frequency (MHz)	Poss Correspondents
1	Horizontal dipole	VGD 30 d 22	2.5-6.25	Omsk/Kuybyshev
2	Horizontal dipole	VGD 30 d 22	2.5-6.25	Krasnovodsk
3	Horizontal dipole	VGD 15 d 16	5.0-12.5	Omsk/Kuybyshev
4	Horizontal dipole	VGD 15 d 16	5.0-12.5	Krasnovodsk
5	Quadrant	UGD 20 16	5.62-9.55	
6	Quadrant	UGD 32 22	3.51-5.97	
7	Fishbone	BS2 21 200 17 8 4.5	3.0-24.0	Moscow
8	Fishbone	BS2 21 200 17 8 4.5	3.0-24.0	Tashkent
9	Fishbone	BS2 21 200 17 8 4.5	3.0-24.0	Tashkent
10	Fishbone	BS2 21 200 17 8 4.5	3.0-24.0	Krasnovodsk
11	Fishbone	BS2 21 200 17 8 4.5	3.0-24.0	Moscow
12	Fishbone	BS2 21 200 17 8 4.5	3.0-24.0	Krasnovodsk
13	Fishbone	BS2 21 200 17 8 4.5	3.0-24.0	Moscow
14	R-400 microwave antenna			Chelyabinsk Radcom Xmtr Sta
15	R-400 microwave antenna			Paletayevo Radcom Xmtr Sta

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Table 4. Paletayevo Radio Communications Transmitter Station  
(Keyed to Figure 5)

No	Antenna Type	Soviet Designator	Frequency (MHz)		Poss Correspondents
1	Double rhombic	RGD 65 1 4	8.0-16.7		Moscow
2	Double rhombic	RGD 57 1 117	4.5-11.2		Novosibirsk
3	Double rhombic	RGD undet undet	Undet		Tashkent
4	Horizontal dipole	VGD 32 d 22	3.51-5.97		Undet
5	Horizontal dipole	VGD 30 d 22	2.5-6.25		Omsk
6	Horizontal dipole	VGD 15 d 16	5.0-12.5		Omsk
7	Probable horizontal dipole	VGD undet undet	Undet		Undet
8	R-400 microwave antennas, 2				Chelyabinsk Radcom Xmtr Sta Chelyabinsk Radcom Rcvr Sta

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**REFERENCES**

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**MAPS OR CHARTS**

DMA. US Air Target Chart, Series 200, Sheet 0156-8, scale 1:200,000

**REQUIREMENT**

Project 250033DC

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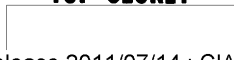
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